DESCRIPTION

- MCUSH is the short name for MCU-SHell.
- A practical project that enhance microcontroller serial port command line interface with shell features like in many linux systems.
- The goal of the project is to provide a firmware template that will expand commands for new applications, so it should be designed with simple API and easy to use.
- MCUSH is heavily based on FreeRTOS, the shell task runs as a stand-alone task with middle level priority.
- Test suites and templates written in python are privided to ease the test work and create CLI/GUI applications.
- Hosted on github: https://github.com/pengshulin/mcush

FEATURES

- SUPPORT:
  - call command functions with arguments in form of argc and argv
  - arguments parser with short option '-' and long option '--'
  - low memory requirement, suitable for some tiny chips
  - prompt hook function for customize
  - history command list
  - multi-line input
  - may port to different architectures, but currently it runs on CORTEX-M only
- NOT SUPPORT:
  - lineedit features require multi-bytes (such as array keys, shell colors...) not supported, only support simple features that require single-byte (such as BACKSPACE, Ctrl-A/B/C/D/E/F/K/N/P)

ROADMAP

- run the basic shell on STM32 chips
- add commands to control more peripherals
- use USB virtual com port driver provided by ST
- test embedded dynamic languages (eg. lua/picolisp/tinyscheme...)
- add file system support (FatFS/spiffs...)
- add file utils (ls,cp,rm,cat,...) for file system
- add bootloader and upgrade support

ENVIRONMENT

- arm-none-eabi-gcc, newlibc, arm-none-eabi-gdb
- scons + personal MCU build scripts https://github.com/pengshulin/site_scons
- STLink v2 + st-flash(flasher) + st-util(gdb server) https://github.com/texane/stlink
- openocd
- develope and test on Debian/Ubuntu machines

LICENSE

- source codes:
    - As this is my personal software toolkit, you can use it freely only for personal use.
    - Commerical use is NOT AUTHORIZED!!!
- binary executables:
    - images provided in build directory are free as BSD

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